

What is the definition of a preferred alternative? Has there ever been an instance of a preferred alternative changing?	1
Full immobilization is the best option for DOE. There is no need for a pure level of plutonium. Immobilization requires fewer facilities, plutonium travels less, there is less of a security risk, and there are fewer high-level-waste impacts. DOE will not have to deal with licensing resistance from communities.	2

AIKEN-1

General SPD EIS and NEPA Process

A preferred alternative is the alternative that an agency believes best accomplishes the proposed action, giving consideration to environmental, technical, economic, and other information available at the time. In accordance with CEQ implementing regulations (40 CFR 1502.14(e)), the agency shall identify its preferred alternative or alternatives, if one or more exists, in the draft EIS and must identify one in the final EIS. While DOE has identified its preferences in this SPD EIS, it is open to any new information that may become available and will use this information in making a decision, which will be published in a ROD. There have been instances in which a preferred alternative was changed in the period between the draft to final versions of an EIS, and others in which a preferred alternative was not chosen in the ROD. For example, the preferred alternative in the *Shutdown of the River Water System at the Savannah River Site* was to shut down the system; however, the No Action Alternative was chosen in the ROD.

AIKEN-2

Alternatives

DOE acknowledges the commentor's support for the immobilization-only approach. DOE has identified as its preferred alternative the hybrid approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

Transportation would be required for both the immobilization and MOX approaches to surplus plutonium disposition. Transportation of special nuclear materials, including fresh MOX fuel, would use DOE's SST/SGT system. Since the establishment of the DOE Transportation Safeguards Division in 1975, the SST/SGT system has transported DOE-owned cargo over more than 151 million km (94 million mi) with no accidents causing a fatality or release of radioactive material. The

I am concerned about the last six alternatives for immobilizing plutonium. Plutonium is a national resource and treasure. Fifty metric tons of weapons-grade plutonium is the equivalent of 200 million metric tons of coal at \$150 per metric ton. Fifty metric tons of plutonium is worth about \$29.5 billion. Fifty metric tons of plutonium can provide enough electricity to power three counties for 50 years. Do not immobilize plutonium that could be used for nuclear power.

3

transportation requirements for the surplus plutonium disposition program are also evaluated in this SPD EIS.

DOE has a classified design basis threat document for guidance in the design, construction, and evaluation of all security systems associated with the proposed surplus plutonium disposition facilities. That document was prepared in coordination with the law enforcement agencies (Federal, State, and local) and the intelligence community, and is reviewed periodically to ensure currency with emerging threats. Current DOE safeguards and security orders would also be used in the design, construction, and evaluation of the security systems.

As described in Sections 2.18.3 and 4.28.2.8, additional spent fuel would be produced by using MOX fuel instead of LEU fuel in domestic, commercial reactors. Spent fuel management at the proposed reactor sites is not expected to change dramatically due to the substitution of MOX assemblies for some of the LEU assemblies. Likewise, the additional spent fuel would be a very small fraction of the total that would be managed at the potential geologic repository. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

AIKEN-3

Alternatives

DOE acknowledges the commentor's concern regarding the market value of surplus plutonium. The purpose of the MOX approach is not to generate electricity, but to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors.

DOE reviewed the chemical and isotopic composition of the surplus plutonium and determined in the *Storage and Disposition PEIS* ROD that about 8 t (9 tons) of surplus plutonium were not suitable for use in making MOX fuel. Furthermore, DOE has identified an additional 9 t (10 tons) for a total of 17 t (19 tons) that have such a variety of chemical and isotopic compositions that it is more reasonable to immobilize these materials and avert the processing complexity that would be added if these materials were made into MOX fuel. The criteria used in this identification included the level of impurities, processing requirements, and the ability to meet the MOX fuel specifications.

MOX experience is untried; weapons-grade plutonium has never been used in commercial reactors. Weapons materials increase the wear and tear on commercial reactors and needs to be addressed.

4

I am concerned about the reprocessing of MOX fuel. DOE should fully expand nonreactor options to dispose of plutonium. Communities will cry nix MOX and will not support MOX.

5

AIKEN-4

MOX Approach

Although no domestic, commercial reactors are licensed to use plutonium-based fuel, several are designed to use MOX fuel, and others can easily and safely accommodate a partial MOX core. The fabrication of MOX fuel and its use in commercial reactors have been accomplished in Western Europe. This experience would be used for disposition of the U.S. surplus plutonium. While plutonium from warheads may never have been used in MOX fuel, its behavior in fuel is essentially the same as that of non-weapons-origin plutonium, and so does not present a situation different from MOX fuel experience to date. Plutonium from the different origins is chemically indistinguishable. The difference is isotopic: there is less plutonium 239 in non-weapons-origin plutonium than was produced for use in weapons. MOX fuel, regardless of the origin of the plutonium, has a higher flux than LEU fuel, therefore, it can cause more wear on the reactor than LEU fuel. However, this flux differential would be taken into account during the development of fuel management strategy for the reactor core. Section 4.28 was revised to present the reactor-specific analyses, including accident analyses, for the reactors proposed to use MOX fuel.

AIKEN-5

Alternatives

U.S. policy dating back to the Ford Administration has prohibited the commercial, chemical reprocessing and separation of plutonium from spent nuclear fuel. The use of U.S. surplus plutonium in existing domestic, commercial reactors does not involve reprocessing (reprocessing is a chemical separation of uranium, transuranic elements [including plutonium], and fission products from spent reactor fuel and the reuse of the plutonium and uranium to produce new fresh fuel). The proposed use of MOX fuel is consistent with the U.S. nonproliferation policy and would ensure that plutonium which was produced for nuclear weapons and subsequently declared excess to national security needs is never again used for nuclear weapons.

DOE has identified as its preferred alternative the hybrid approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for

SAVANNAH RIVER SITE—NORTH AUGUSTA, SOUTH CAROLINA
PAGE 4 of 18

Pit disassembly and conversion increases the inventory of sites for cleanup.	6
--	---

The SPD EIS process is cooked. The United States should not make MOX fuel if it's not going to use it.	7
--	---

reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

AIKEN-6

Pit Disassembly and Conversion

The pit disassembly and conversion process declassifies plutonium from pits and clean metal and converts the plutonium to an oxide. This is a necessary first step for surplus plutonium disposition. This SPD EIS identifies and analyzes potential environmental impacts that might result from the construction and operation of the pit conversion facility at the candidate sites. As described in Chapter 4 of Volume I, these potential impacts would likely be minor. D&D is discussed in Section 4.31. DOE will evaluate options for D&D or reuse of the proposed facilities at the end of the surplus plutonium disposition program. At that time, DOE will perform engineering evaluations, environmental studies, and further NEPA review to assess the consequences of different courses of action.

AIKEN-7

Alternatives

DOE has prepared this SPD EIS in accordance with the provisions of NEPA (42 U.S.C. 4321 et seq.) and the related CEQ and DOE implementation regulations (40 CFR 1500 through 1508 and 10 CFR 1021, respectively). The primary objective of the EIS is a comprehensive description of proposed surplus plutonium disposition actions and alternatives and their potential environmental impacts. DOE has analyzed each environmental resource area in a consistent manner across all the alternatives to allow for a fair comparison among the alternatives and among the candidate sites for surplus plutonium disposition facilities.

DOE conducted a procurement process to acquire MOX fuel fabrication and irradiation services. The selected team, DCS, would design, request a license, construct, operate, and deactivate the MOX facility as well as irradiate the MOX fuel in domestic, commercial reactors. However, these activities are subject to the completion of the NEPA process.

MOX costs more. DOE should cancel the MOX option and use the savings from the canceled option for more productive purposes.	8
Will the utilities wind up paying more to use MOX fuel?	9
Who pays to provide free plutonium to utilities? Utilities could be paid twice, once by ratepayers, and once by the government. DOE needs to address in what way subsidies provide unfair advantage to some utilities over others. Is DOE willing to buy out commercial utilities to keep MOX going? Who will buy utilities from MOX reactors? Consumers want alternative choices for energy.	10

AIKEN-8

Cost

DOE acknowledges the commentor's opposition to the MOX approach based on cost. Because cost issues are beyond the scope of this SPD EIS, this comment has been forwarded to the cost analysis team for response. For a better understanding of the cost and schedule estimates for each alternative, consult *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998) and *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999). These documents are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

AIKEN-9

MOX RFP

DOE's intention is for the use of MOX fuel to be revenue neutral for utilities. If the effective value of the MOX fuel exceeds the cost of the LEU fuel that it displaced, then the contract provides that money would be paid back to the U.S. Government by DCS based on a formula included in the DCS contract.

AIKEN-10

DOE Policy

DOE conducted a procurement process to acquire MOX fuel fabrication and irradiation services. The surplus plutonium would be free to the selected team, DCS, in which the utilities are a partner. DCS would have access to the U.S. Government-owned MOX facility to fabricate fuel for use in the reactor of its choice, in exchange for irradiation of the MOX fuel that would convert the plutonium to meet the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors. The contract between DOE and DCS does not provide for subsidies to utilities. The supply of electricity by MOX fuel irradiated in the reactor would be determined by the demand for electricity in the reactor's service area.

SAVANNAH RIVER SITE—NORTH AUGUSTA, SOUTH CAROLINA
PAGE 6 of 18

SRS costs \$60 million less than the Pantex option. DOE's own experts estimate savings to exceed \$1.5 billion based on eliminating duplicative costs. 11

I have reviewed DOE's cost estimates for accuracy, and I do not believe that DOE's numbers are reflective of actual savings. 12

I recommend that the United States pursue with Russia a course that will yield the best use of available funds. 13

The United States to date has not established plutonium as a commodity. MOX will set this precedent and will remove a credible basis for the nation to oppose international proliferation from military to commercial practices. MOX increases the risk of proliferation. No plutonium should be turned into MOX fuel. 14

AIKEN-11

Cost Report

Because this comment relates directly to the cost analysis report, it has been forwarded to the cost analysis team for consideration. The *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, is available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

AIKEN-12

Cost Report

Because this comment relates directly to the cost analysis report, it has been forwarded to the cost analysis team for consideration. The *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, is available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

AIKEN-13

DOE Policy

DOE agrees that close cooperation between the United States and Russia is essential to achieve the objectives of nonproliferation and arms reduction, and to ensure secure management of nuclear weapons materials. To that end, the United States and Russia recently made progress in the management and disposition of plutonium. In late July 1998, Vice President Gore and Russian Prime Minister Sergei Kiriyenko signed a 5-year agreement to provide the scientific and technical basis for decisions concerning how surplus plutonium will be managed. This agreement enables the two countries to explore mutually acceptable strategies for safeguarding and dispositioning surplus plutonium. During the first week of September 1998, Presidents Clinton and Yeltsin held a Moscow summit and signed a statement of principles with the intention of removing approximately 50 t (55 tons) of plutonium from each country's stockpile.

AIKEN-14

Nonproliferation

DOE acknowledges the commentator's opposition to the MOX approach. Consistent with the U.S. policy of discouraging the civilian use of plutonium,

DOE needs to establish a zero release policy. There is no acceptable amount of release, and DOE should have 100 percent containment.	15
DOE needs to include redundancy in controlling contamination. It needs to adopt an “as low as achievable standard” for workers rather than an “as low as reasonably achievable” standard.	16
Regarding Texas' support for the pit disassembly and conversion mission: the Texas State Republican Platform opposed hazardous waste as an energy source in an agricultural area or above a water source.	17

a MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program. For reactor irradiation, the NRC license would authorize only the participating reactors to use MOX fuel fabricated from surplus plutonium, and the irradiation would be a once-through cycle with no reprocessing.

AIKEN-15 **DOE Policy**
DOE acknowledges the commentor’s support of a zero release policy. Operation of the proposed surplus plutonium disposition facilities would comply with applicable Federal, State, and local laws and regulations governing radiological and hazardous chemical releases. DOE would also establish an effective ALARA program to ensure that doses are reduced to levels that are as low as is reasonably achievable.

AIKEN-16 **DOE Policy**
DOE acknowledges the commentor’s support of redundancy in controlling contamination. The proposed surplus plutonium disposition facilities would be designed, constructed, operated, and deactivated in accordance with applicable Federal, State, and local environmental, safety, and health requirements. Within these limits, DOE believes that the level of contamination should be kept as low as is reasonably achievable, so that the benefit of reducing the already low level of contamination would warrant the additional cost of that reduction. Worker safety is also a major consideration in construction and operation of the proposed facilities, and safety assessment is an integral part of the design process.

AIKEN-17 **Other**
The surplus plutonium is not hazardous waste, but separated weapons-usable plutonium that the United States is now trying to put into a proliferation-resistant form. By working in parallel with Russia to reduce stockpiles of excess plutonium, the United States can reduce the chance that weapons-usable nuclear material could fall into the hands of terrorists or rogue states and help ensure that nuclear arms reductions will never be

SAVANNAH RIVER SITE—NORTH AUGUSTA, SOUTH CAROLINA
PAGE 8 of 18

It's in the best interest of the nation to consolidate the plutonium disposition mission at SRS. SRS welcomes two components of the plutonium disposition mission and would like the third component as well. It makes sense to locate the mission at a site where the expertise resides. SRS employs 14,000 workers, and another 10,000 workers have retired from the site. SRS has first-hand knowledge in handling plutonium.

18

There are concerns about Pantex being chosen for pit disassembly and conversion. Pantex has no workforce experience in handling unclad plutonium and no experience with plutonium release. The Pantex workforce is not familiar with the finer aspects of plutonium (i.e., safeguarding in various forms). Processing plutonium requires special skills and extensive experience. Pantex is not designed for the type of work required to process plutonium.

19

SRS has been a good neighbor. DOE provided grants to United Way to offset impacts of downsizing. DOE made it possible for communities to respond to displaced workers.

20

MOX increases the amount of waste.

21

reversed. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

AIKEN-18

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

AIKEN-19

Alternatives

DOE acknowledges the commentor's concerns regarding siting the pit conversion facility at Pantex. The candidate sites for the proposed surplus plutonium disposition facilities would have levels of protection and control compliant with applicable DOE environmental, safety, and health requirements. Training would be provided to all workers involved in the surplus plutonium disposition program. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

AIKEN-20

Socioeconomics

DOE acknowledges the commentor's appreciation of SRS and of efforts by DOE to minimize the impacts of downsizing.

AIKEN-21

Waste Management

As discussed in Appendix H and Chapter 4 of Volume I, some additional waste would be generated if DOE decided to convert 33 t (36 tons) of the

What is the rationale for commercializing the MOX fuel fabrication process? Commercial reactors are not designed to accommodate MOX fuel. DOE needs to consider the impacts of MOX on individual commercial reactors. Until this is done, the SPD EIS is not complete.

22

The MOX option increases the risk of accidents in commercial reactors. Aging reactors are being closed by communities. MOX licensing opens the door for prolonging the life of some of these reactors. Chernobyl was bad, and an accident with MOX will be worse.

23

surplus plutonium to MOX fuel rather than to immobilize all of the plutonium. This can be seen by comparing Alternative 2 at Hanford, which would involve immobilizing 17 t (19 tons) and fabricating 33 t (36 tons) into MOX fuel, with Alternative 11A, under which all 50 t (55 tons) would be immobilized.

AIKEN-22

MOXRFP

DOE's proposed action for surplus plutonium disposition is not a privatization effort, although the acquisition of MOX fuel fabrication and irradiation services has some similarities to DOE's privatization initiative. DOE conducted a procurement process to acquire these services. The selected team, DCS, would design, request a license, construct, operate, and deactivate the MOX facility as well as irradiate the MOX fuel in domestic, commercial reactors. However, these activities are subject to the completion of the NEPA process.

Although no domestic, commercial reactors are licensed to use plutonium-based fuel, several are designed to use MOX fuel, and others can easily and safely accommodate a partial MOX core. An amendment to a reactor's NRC operating license would be required before MOX fuel could be used. In addition, core load and safety analyses would be performed and an NRC license amendment approved before MOX fuel was introduced into any reactor. Section 4.28 was revised to discuss the procurement process as well as the potential environmental impacts of the reactors that would use the MOX fuel.

AIKEN-23

Facility Accidents

The commercial reactors selected for the MOX approach include only those reactors whose operational life is expected to last beyond the life of the surplus plutonium disposition program. As discussed in Section 4.28.2.5, studies by NAS have led it to the following conclusion: "no important overall adverse impact of MOX use on the accident probabilities of the LWRs involved will occur; if there are adequate reactivity and thermal margins in the fuel, as licensing review should ensure, the main remaining determinants of accident probabilities will involve factors not related to fuel composition and hence unaffected by the use of MOX rather than LEU fuel." The analysis reflected in Section 4.28 indicates that the change in consequences to the population within 80 km (50 m) of the reactors for the beyond-design-basis

There are more thermal impacts from MOX that haven't been evaluated in the SPD EIS. 24

I am concerned about transporting materials from Rocky Flats and Richland and the added volume it will bring to the region. 25

I am aware of DOE 6450-01-P, Citations for Concerns regarding shipment security. The rise in national and international terrorism mandates that shipments be kept secret. Citizens do not know about foreign fuel shipments unless they go through channels. Citizens do not get the word from DOE. I found out about a DOE shipment through the Internet. I camped out and saw a video shot from a helicopter of a television news team. The shipment was spotted with a \$150 telescope. The point is that shipments are vulnerable to terrorists if those terrorists want to get to them. 26

accidents involving MOX fuel would range from minus 4 to plus 14 percent. For the design basis accidents, the incremental change in consequences from MOX fuel would range from minus 6 to plus 3 percent.

AIKEN-24

MOX Approach

Following irradiation, the MOX fuel would be removed from the reactor and managed at the reactor site as spent fuel in accordance with the site's normal spent-fuel-handling procedures. In all likelihood, the MOX spent fuel would be stored in a water pool until it could be sent to a potential geologic repository for ultimate disposition pursuant to the NWPA, as amended. Reactors would require NRC operating license amendments and, as part of that process, safety and operational arrangements (e.g., spent fuel management plans) and specific safety and operational issues (e.g., any thermal differences between MOX and LEU fuels) would be evaluated. In any event, it would be the licensee's responsibility to ensure that spent fuels, MOX or LEU, were safely managed. Analyses performed thus far show that MOX fuel would be treated the same as commercial spent fuel, and that no new waste package design would be needed. Should the potential geologic repository not qualify to receive spent fuel, then DOE would make recommendations to the U.S. Congress on how to proceed.

AIKEN-25

Transportation

DOE acknowledges the commentor's concern about the transportation of materials in the SRS region. This SPD EIS describes the impacts of the increase in traffic in Section 4.32.4.5. Note that the increase as a result of the surplus plutonium disposition program is about 1 percent. Table L-6 summarizes the potential transportation impacts associated with all SPD EIS alternatives. As indicated in Section 2.18, no traffic fatalities from nonradiological accidents or LCFs from radiological exposures or vehicle emissions are expected.

AIKEN-26

Transportation

DOE acknowledges the commentor's concern about shipment vulnerability, and recognizes the possibility of terrorist-related incidents during the disposition of surplus plutonium. Appendix L.6.5 describes the potential

Communities are actively opposed to nuclear materials and waste shipments. DOE's plan to ship powder or oxide form across six states is ridiculous. The potential impacts from an accident are enormous. It's harder to contain the material, and the impact to the public is unacceptable.

27

NRC regulations no longer require double wall containers. DOE should voluntarily use double wall containers for shipping.

28

impacts of a terrorist attack during transportation of the nuclear materials involved in implementing the proposed action. Appendix L.3.2 contains information on the security provided by the Transportation Safeguards System. Appendix L.6.5 was revised to provide more information on safeguards and security for plutonium.

AIKEN-27

Transportation

DOE acknowledges the commentor's concern about the shipment of nuclear material and waste. Table L-6 summarizes the potential transportation impacts associated with all surplus plutonium disposition alternatives. As indicated in Section 2.18, no traffic fatalities from nonradiological accidents or LCFs from radiological exposures or vehicle emissions are expected. Transportation risk is just one of many issues that DOE will consider before selecting an alternative. Alternatives 1, 2, 3, 6A, 6B, 7, 8, 9, 10, 11A, and 12A do not require shipping oxide that was converted from the pits and metal.

AIKEN-28

Transportation

The Type B packages that would be used to transport plutonium pits, metal, and oxide are designed to withstand test conditions described in Appendix L.3.1.6 which represent extremely severe accidents (estimated to be more severe than over 99 percent of all accidents that could occur) and still contain the packaged radioactive contents. Type B packages have been used for years to ship radioactive materials in the United States and around the world. To date, no Type B package has ever been punctured or released any of its contents, even in actual highway accidents. As described in Appendix L.3.1.5, the Type B package is extremely robust and provides a high degree of confidence that even in extremely severe accidents the integrity of the package would be maintained with essentially no loss of the radioactive contents or serious impairment of the shielding capability. Transportation would be required for both the immobilization and MOX approaches to surplus plutonium disposition. Transportation of special nuclear materials, including fresh MOX fuel, would use DOE's SST/SGT system. Since the establishment of the DOE Transportation Safeguards Division in 1975, the SST/SGT system has transported DOE owned cargo over more than 151 million km (94 million mi) with no accidents causing a fatality or release of radioactive material.

SAVANNAH RIVER SITE—NORTH AUGUSTA, SOUTH CAROLINA
PAGE 12 of 18

DOE should note that citizens' organizations in Russia also oppose MOX. 29

As a minister, I am tempted to go to a higher authority than elected officials to encourage our DOE officials to make the correct decision for our entire nation. 30

DOE should conduct meetings in Barnwell and Allendale counties as well as in Augusta. 31

The opposing comments offered at this meeting are not being made by locals and do not represent the South Carolina community. DOE has heard from a diversity of community members, and all support the plutonium disposition mission. The SRS Retiree Association Board of Directors support a consolidated mission at SRS. SRS is strongly supported by local citizens. 32

AIKEN-29

Alternatives

DOE acknowledges the commentor's observation that citizens' organizations in Russia also oppose the MOX approach.

AIKEN-30

Other

DOE acknowledges the commentor's position. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

AIKEN-31

General SPD EIS and NEPA Process

DOE acknowledges the commentor's request for additional hearings in Barnwell and Allendale Counties. During the comment period, July 17 through September 16, 1998, DOE hosted five public hearings that provided opportunities for oral and written comment on the SPD Draft EIS. Afternoon and evening workshops were held at the five hearings. The hearing in North Augusta, South Carolina, was held at the North Augusta Community Center, a location near Barnwell and Allendale Counties, on August 13. For persons unable to attend these hearings, DOE provided opportunities for submitting comments by various means: mail, a toll-free telephone and fax line, and the MD Web site. All comments were given equal consideration, regardless of how they were submitted.

AIKEN-32

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

Commercial reactor communities are not as supportive of the MOX option as DOE Complex communities.	33
DOE is not considering communities where commercial reactors are located. DOE needs to hold meetings in the vicinity of commercial reactors being considered to burn MOX fuel to allow communities the chance to influence the MOX decision.	34

AIKEN-33

MOX Approach

DOE acknowledges the commentor’s observation that reactor communities may not be as supportive of the MOX approach as DOE complex communities. Commercial reactors in the United States are capable of safely using MOX fuel. The fabrication of MOX fuel and its use in commercial reactors have been accomplished in Western Europe. This experience would be used for disposition of the U.S. surplus plutonium. The environmental, safety, and health consequences of the MOX approach, as well as the production and disposal of any waste, are addressed by DOE in this SPD EIS. The MOX facility would be licensed by NRC under 10 CFR 70, and NRC would continue to be responsible for licensing the reactors that use MOX fuel, and as such would have to approve the use of MOX fuel through the license amendment process.

DOE used several means to solicit comments on the surplus plutonium disposition program from the public; State, local and tribal officials; special interest groups; and other interested parties. These include mail, a toll-free telephone and fax line, and the MD Web site. In addition, DOE has conducted public hearings in excess of the minimum required by the NEPA regulations on the weapons-usable fissile materials disposition program and discussed materials disposition in many other public forums.

AIKEN-34

General SPD EIS and NEPA Process

The SPD Final EIS was not issued until specific reactors had been identified and the public had an opportunity to comment on the reactor-specific information. As part of the procurement process, bidders were asked to provide environmental information to support their proposals. This information was analyzed in an Environmental Critique prepared for the DOE source selection board prior to award of the MOX fuel fabrication and irradiation services contract. DOE then prepared an Environmental Synopsis on the basis of the Environmental Critique, which was released to the public as Appendix P of the *Supplement to the SPD Draft EIS* in April 1999. A hearing was held in Washington, D.C. on specific reactor information. After careful consideration of its public involvement opportunities, including information availability and mechanisms to submit comments, DOE decided not to hold additional hearings on the *Supplement*. DOE provided other

SAVANNAH RIVER SITE—NORTH AUGUSTA, SOUTH CAROLINA
PAGE 14 of 18

What is DOE planning to do about the spent fuel from MOX?	35
I support nuclear energy.	36
The technology proposed at Pantex would require “high-fire” oxide, which is usable for MOX without extensive pretreatment. If aqueous processing is required to meet the MOX standard, how will DOE do it? Will DOE use a polishing process?	37

means for the public to express their concerns and provide comments: mail, a toll-free telephone and fax line, and the MD Web site. The *Supplement* was mailed to those stakeholders who requested it as well as those specified in the DOE *Communications Plan* (i.e., Congressional representatives, State and local officials and agencies, and public interest groups around the United States) and the utilities’ contact lists. The utilities, Duke Power Company and Virginia Power Company, would operate the proposed reactors (located in North Carolina, South Carolina, and Virginia) should the MOX approach be pursued per the SPD EIS ROD. Further interested parties would likely have the opportunity to submit additional comments during the NRC reactor license amendment process.

AIKEN-35

MOX Approach

Following irradiation, the MOX fuel would be removed from the reactor and managed at the reactor site as spent fuel in accordance with the site’s normal spent-fuel-handling procedures. In all likelihood, the MOX spent fuel would be stored in a water pool until it could be sent to a potential geologic repository for ultimate disposition pursuant to the NWPA, as amended. Reactors would require NRC operating license amendments and, as part of that process, safety and operational arrangements (e.g., spent fuel management plans) and specific safety and operational issues (e.g., any thermal differences between MOX and LEU fuels) would be evaluated. In any event, it would be the licensee’s responsibility to ensure that spent fuels, MOX or LEU, were safely managed. Analyses performed thus far show that MOX fuel would be treated the same as commercial spent fuel, and that no new waste package design would be needed. Should the potential geologic repository not qualify to receive spent fuel, then DOE would make recommendations to the U.S. Congress on how to proceed.

AIKEN-36

Other

DOE acknowledges the commentor’s support for nuclear energy.

AIKEN-37

Plutonium Polishing and Aqueous Processing

Appendix N of the SPD Draft EIS discusses the environmental impacts of adding a small plutonium-polishing process into either the pit conversion or MOX facility as a contingency. On the basis of public comments on the SPD Draft EIS, and the analysis performed as part of the MOX procurement,

Why is the pit disassembly and conversion facility so much cheaper to build than the other facilities?	38
Is the variance projected in the Cost Report due to uncertainties (equipment needs, etc.)?	39
The cost numbers seem low and should be double checked to ensure consistency. The \$2,400 per square foot seems low.	40

DOE has included plutonium polishing as a component of the MOX facility to ensure adequate impurity removal from the plutonium dioxide. Appendix N was deleted from the SPD Final EIS, and the impacts discussed therein were added to the impacts sections presented for the MOX facility in Chapter 4 of Volume I. Section 2.18.3 was also revised to include the impacts associated with plutonium polishing.

AIKEN-38

Cost

Because cost issues are beyond the scope of this SPD EIS, this comment has been forwarded to the cost analysis team for consideration. The *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998) report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

AIKEN-39

Cost Report

Because this comment relates directly to the cost analysis report, it has been forwarded to the cost analysis team for consideration. The *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, is available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

AIKEN-40

Cost Report

Because this comment relates directly to the cost analysis report, it has been forwarded to the cost analysis team for consideration. The *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, is available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

There are hidden costs in startup. SRS has extensive expertise with a long history of operation and startups. Discipline is required for startups, and it benefits from extensive experience.	41
SRS is the best site for a consolidated mission. It's the right thing to do, just do it.	42
SRS has the best qualified workforce and site for plutonium processing. Other sites have adopted a lot of SRS' training practices.	43

AIKEN-41**Cost**

Because cost issues are beyond the scope of this SPD EIS, this comment has been forwarded to the cost analysis team for consideration. The *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998) report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at <http://www.doe-md.com> and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

AIKEN-42**Alternatives**

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

AIKEN-43**Alternatives**

DOE acknowledges the commentor's support for the SRS workforce and for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

Westinghouse is an added reason and benefit for bringing a consolidated mission to SRS. Safety is the company's top priority. The company looks at the big picture and has the supporting management and infrastructure in place to be competitive.	44
If the plutonium needs to be purified, SRS offers the flexibility to go to aqueous processing by using the canyon facilities.	45
All waste management activities and processes are in place at SRS to support a plutonium disposition mission. SRS would not require a new waste management infrastructure.	46
In the Stockpile Stewardship and Management PEIS, the decision was made that Pantex would not be contaminated with plutonium. A 1996 decision document disqualified Pantex for processing (including dry processing).	47

AIKEN-44

Alternatives

DOE acknowledges the commentor's observations about Westinghouse and safety.

AIKEN-45

Plutonium Polishing and Aqueous Processing

An aqueous process for conversion of plutonium would have to be placed in a new facility. Existing canyon facilities at SRS are not configured for a surplus plutonium disposition mission and are either shut down or planned for shutdown and D&D. For example, use of F-Canyon at SRS would result in a requirement to reconfigure facilities and to keep the canyon operating for at least another 10 years. DOE has already made a commitment to the public, the U.S. Congress, and DNFSB to shut the canyon down.

AIKEN-46

Alternatives

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPDEIS ROD.

AIKEN-47

Alternatives

The *Final Programmatic Environmental Impact Statement for Stockpile Stewardship and Management* (SSM PEIS) (DOE/EIS-0236, September 1996) states that the pit fabrication mission would not be introduced into a site that does not have an existing plutonium infrastructure because of the high cost of new plutonium facilities and the complexity of introducing plutonium operations into sites without current plutonium capabilities. The SSM PEIS states further that an important element of the site selection strategy is to maximize the use of existing infrastructure and facilities as the nuclear weapons complex becomes smaller and more efficient in the 21st century; thus, no new facilities were to be built to accommodate stockpile management missions.

Does DOE plan not to comply with NRC Regulation 0800 [*refers to aircraft crash scenarios*]? |

48

Accordingly, DOE considered as reasonable only those sites with existing infrastructure capable of supporting a pit fabrication mission. Although Pantex has the infrastructure to carry out its current weapons assembly and disassembly mission and nonintrusive pit reuse program, it was not considered a viable alternative for the pit fabrication mission because it did not possess sufficient capability and infrastructure to meet the SSM PEIS siting assumption stated above. Among the operations that were considered in developing siting alternatives for pit fabrication in the SSM PEIS were plutonium foundry and mechanical processes, including casting, shaping, machining, and bonding; a plutonium-processing capability for extracting and purifying plutonium to a reusable form either from pits or residues; and assembly operations involving seal welding and postassembly processing.

When comparing the site selection strategy for pit disassembly and conversion with that used for the pit fabrication mission, the siting criteria in the SSM PEIS have little or no bearing on siting criteria used in this SPD EIS. Pit disassembly and conversion do not require the foundry and mechanical processes discussed in the SSM PEIS and can be accomplished in a stand-alone facility. Also, the SSM PEIS siting assumptions include a requirement to use existing facilities, whereas, the pit conversion facility would be a new structure no matter where it is located.

AIKEN-48

Facility Accidents

The aircraft crash analysis for this SPD EIS was performed in accordance with *Accident Analysis for Aircraft Crash Into Hazardous Facilities* (DOE-STD-3014-96, October 1996). DOE was cognizant of NRC NUREG-0800 in its development of DOE-STD-3014.